USER'S MANUAL

YORK
BY JOHNSON CONTROLS

Floor ceiling Inverter R410a 50/60HZ

YHFMXH(028-060)BARX-FX

Read this manual before installation and operation
Make sure that it is well kept for later reference

0150512345

Johnson Controls

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English

EUROPEAN REGULATIONS CONFORMITY FOR THE MODELS

CE

All the products are in conformity with the following European provision:

- Low Voltage Directive 73/23/EEC
- Low Voltage Directive 2006/95/EC
-Electomagnetic CompatibilitY 89/336/EEC
-Electomagnetic CompatibilitY 2004/108/EC

ROHS

The products are fulfilled with the requirements in the directive 2002/95/EEC of the European parliament and of council on the Restriction of the use of Certain Hazardous Substances in Electrical and Electronic Equipment (EU RoHS Directive)

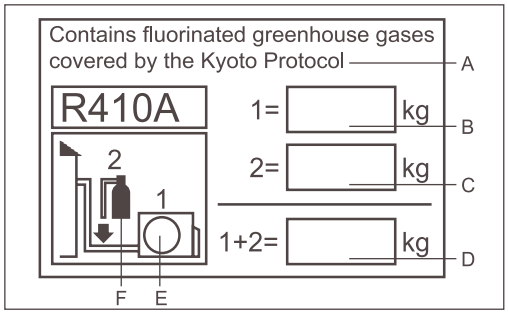
WEEE

In accordance with the directive 2002/96/CE of the European parliament, herewith we inform the consumer about the disposal requirements of the electrical and electronic products.

DISPOSAL REQUIREMENTS:

Your air conditioning product is marked with this symbol.This means that electrical and electronic products shall not be mixed with unsorted household waste. Do not try to dismantle the system yourself : the dismantling of the air conditioning system,treatment of the refrigerant, of oil and of other part must be done by a qualified installer in accordance with relevant local and national legislation. Air conditioners must be treated at a specialized treatment facility for reuse, recycling and recovery. By ensuring this product is disposed of correctly, you will help to prevent potential negative consequences for the environment and humen health. Please contact the installer or local authority for more information. Battery must be removed from the remote controller and disposed of separately in accordance with relevant local and nationl legislation.

IMPORTANT INFORMATION REGARDING THE REFRIGERANT USED



This product contains fluorinated greenhouse gases covered by the Kyoto Protocol. Do not vent into the atmosphere.

Refrigerant type:R410A

GWP* value:1975

GWP=global warming potential

Please fill in with indelible ink,

- 1 the factory refrigerant charge of the product
- 2 the additional refrigerant amount charged in the field and
- 1+2 the total refrigerant charge

on the refrigerant charge label supplied with the product.

The filled out label must be adhered in the proximity of the product charging port (e.g. onto the inside of the stop value cover).

A contains fluorinated greenhouse gases covered by the Kyoto Protocol

B factory refrigerant charge of the product: see unit name plate

C additional refrigerant amount charged in the field

D total refrigerant charge

E outdoor unit

F refrigerant cylinder and manifold for charging

Cautions

Disposal of the old air conditioner

Before disposing an old air conditioner that goes out of use, please make sure it's inoperative and safe. Unplug the air conditioner in order to avoid the risk of child entrapment.

It must be noticed that air conditioner system contains refrigerants, which require specialized waste disposal. The valuable materials contained in a air conditioner can be recycled. Contact your local waste disposal center for proper disposal of an old air conditioner and contact your local authority or your dealer if you have any question. Please ensure that the pipework of your air conditioner does not get damaged prior to being picked up by the relevant waste disposal center, and contribute to environmental awareness by insisting on an appropriate, anti-pollution method of disposal.

Disposal of the packaging of your new air conditioner

All the packaging materials employed in the package of your new air conditioner may be disposed without any danger to the environment.

The cardboard box may be broken or cut into smaller pieces and given to a waste paper disposal service. The wrapping bag made of polyethylene and the polyethylene foam pads contain no fluorochloric hydrocarbon.

All these valuable materials may be taken to a waste collecting center and used again after adequate recycling.

Consult your local authorities for the name and address of the waste materials collecting centers and waste paper disposal services nearest to your house.

Safety Instructions and Warnings

Before starting the air conditioner, read the information given in the User's Guide carefully. The User's Guide contains very important observations relating to the assembly, operation and maintenance of the air conditioner.

The manufacturer does not accept responsibility for any damages that may arise due to non-observation of the following instruction.

- Damaged air conditioners are not to be put into operation. In case of doubt, consult your supplier.
- Use of the air conditioner is to be carried out in strict compliance with the relative instructions set forth in the User's Guide.
- Installation shall be done by professional people. Don't install unit by yourself.
- For the purpose of safety, the air conditioner must be properly grounded in accordance with specifications.
- Always remember to unplug the air conditioner before opening inlet grill. Always grip plug firmly and pull straight out from the outlet.
- All electrical repairs must be carried out by qualified electricians. Inadequate repairs may result in a major source of danger for the user of the air conditoiner.
- Do not damage any parts of the air conditioner that carry refrigerant by piercing or perforating the air conditioner's tubes with sharp or pointed items, crushing or twisting any tubes, or scraping the coatings off the surfaces. If the refrigerant spurts out and gets into eyes, it may result in serious eye injuries.
- Do not obstruct or cover the ventilation grille of the air conditioner. Do not put fingers or any other things into the inlet/outlet and swing louver.
- Do not allow children to play with the air conditioner. In no case should children be allowed to sit on the outdoor unit.
- When the indoor unit is turned on, the PCB will test if swing motor is O.K., and then fan motor will start up.So there is a few seconds to wait.
- In cooling mode,the flaps will swing automatically to a fixed position for anti-condensating.
- This appliance is not intended for use by persons (including children) with reducedphysical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
- Children should be supervised to ensure that they do not play with the appliance.

Cautions

Specifications

- The refrigerating circuit is leak-proof.

- For all the models in this manual, the all-pole discon-nexion connection method should be applied in the power supply. Such means for disconnection must be incorporation in the fixed wiring.

Temperature and Humidity Range

Cooling	Indoor temperature	max. DB/WB min. DB/WB	32/23˚C 18/14˚C
	Outdoor temperature	max. DB/WB min. DB/WB	46/26˚C 10/6˚C
Heating	Indoor temperature	max. DB/WB min. DB/WB	27˚C 15˚C
	Outdoor temperature	max. DB/WB min. DB/WB	24/18˚C -15˚C

- If the air conditioner is used under higher temperature condition than those listed, the built-in protection circuit may operate to prevent internal circuit damage. Also, during Cooling and Dry modes, if the unit is used under conditions of lower temperature than those listed above, the heat-exchanger may freeze, leading to water leakage and other damage.

- Do not use this unit for purposes other than cooling, heating, dehumidifying and ventilation of rooms in ordinary dwellings.

- The wiring method should be in line with the local wiring standand.

- The waste battery should be disposed properly.

- If the fuse on PC board is broken, please change it with the type T 3.15A/250VAC.

Safety Precautions

WARNING

- The breaker of the air conditioner should be all-pole switch, and the distance between its two contacts should be no less 3 mm. Such means for disconnection must be incorporation in the fixed wiring.
- Use copper wire only. All the cables shall have got the European authentication certificate.
- The power supply connects from the outdoor side. The connecting cable and the power cable are self-provided.
- The parameter of connecting cable: H05RN-F 4G 0.75mm^2.

DANGER

- Do not attempt to install this air conditioner by yourself.
- This unit contains no user-serviceable parts. Always consult authorized service personnel for repairs.
- When moving, consult authorized service personnel for disconnection and installation of the unit.
- Do not become excessively chilled by staying for lengthy periods in the direct cooling airflow.
- Do not insert fingers or objects into the outlet port or intake grills.
- Do not start and stop air conditioner operation by connecting and disconnecting the power supply cord and so on.
- Take care not to damage the power supply cord. If the supply cord is damaged, it must be replaced by the manufacturer or authoried service agent in order to avoid a hazard.
- In the event of a malfunction (burning smell, etc.), stop operation immediately, turn off the circuit breaker, and consult authorized service personnel.

WARNING

- Provide occasional ventilation during use.
- Do not direct air flow at fire places or heating apparatuses.
- Do not place objects on the air conditioner or climb onto it .
- Do not hang objects from the indoor unit.
- Do not set flower vases or water containers on top of the air conditioner.
- Do not expose the air conditioner directly to water.
- Do not operate the air conditioner with wet hands.
- Do not pull power supply cord.
- Turn off power source when not using the unit for extended periods.
- Check the condition of the installation stand for damage.
- Do not place animals or plants in the direct path of the air flow.
- Do not drink the water drained from the air conditioner.
- Do not use in applications involving the storage of foods, plants or animals, precision equipment or art works.
- Do not apply any heavy pressure to radiator fins.
- Operate only with air filters installed.
- Do not block or cover the intake grill and outlet port.
- Ensure that any electronic equipment is at least one metre away from either the indoor or outdoor unit.
- Avoid installing the air conditioner near a fireplace or other heating apparatuses.
- When installing the indoor and outdoor unit, take precautions to prevent access to infants.
- Do not use inflammable gases near the air conditioner.

Features and Functions

AUTOMATIC OPERATION

- COOLING TYPE
  Merely press the ON/OFF button, and the unit will begin automatic operation in the Cooling or dry modes as appropriate, in accordance with the thermostat setting and the actual temperature of the room.

- HEAT & COOL TYPE
  Merely press the ON/OFF button, and the unit will begin automatic operation in any of the Heating, Cooling and Blow modes as appropriate, in accordance with the thermostat setting and the actual temperature of the room.

SLEEP

- COOLING TYPE
  When the SLEEP button is pressed during Cooling or Dry mode, the thermostat setting gradually rises during the period of operation. When the set time is reached, the unit automatically turns off.

- HEAT & COOL TYPE
  When the SLEEP button is pressed during Heating mode, the air conditioner's thermostat setting gradually lowers during the period of operation; When the set time is reached, the unit automatically turns off.

WIRELESS REMOTE CONTROL UNIT

- The WIRELESS REMOTE CONTROL UNIT allows convenient control of air conditioner operation.For this type unit, the wireless remote controllor type is YR-H50.

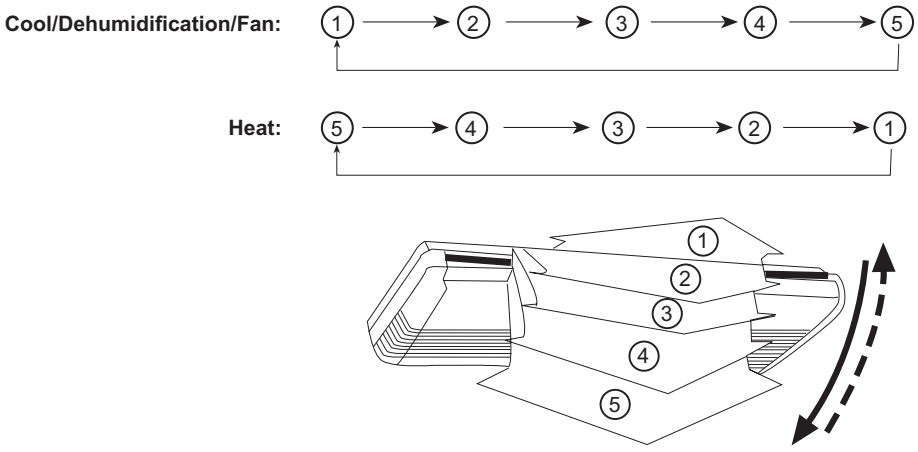
MILDEW-RESISTANT FILTER

- The AIR FILTER has been treated to resist mildew growth, thus allowing cleaner use and easier care.

VERTICAL AIR DIRECTION ADJUSTMENT

Press the AIR FLOW DIRECTION VERTICAL SET button.

- Each time the button is pressed, the air direction range will change as follows:



- Use the air direction adjustment within the ranges shown above.

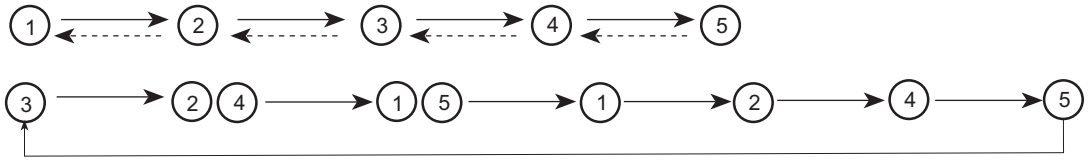
- The vertical airflow direction is set automatically as shown, in accordance with the type of operation selected.

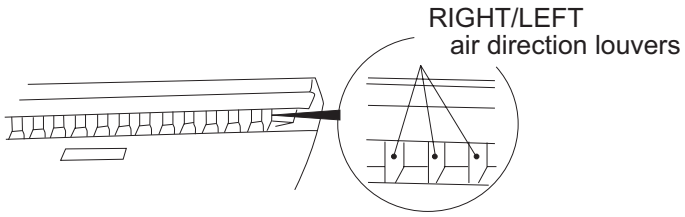
Features and Functions

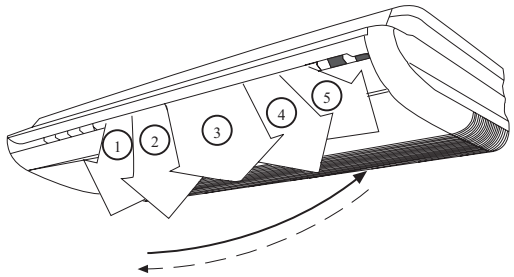
HORIZONTAL AIR DIRECTION ADJUSTMENT

Press the AIR FLOW DIRECTION HORIZONTAL SET button.

- Each time the button is pressed, the air direction range will change as follows:

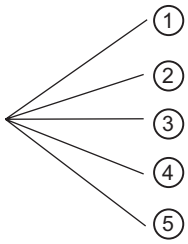






- Use the air direction adjustments within the ranges shown above.

- The swing range of up-down flap is as follow :



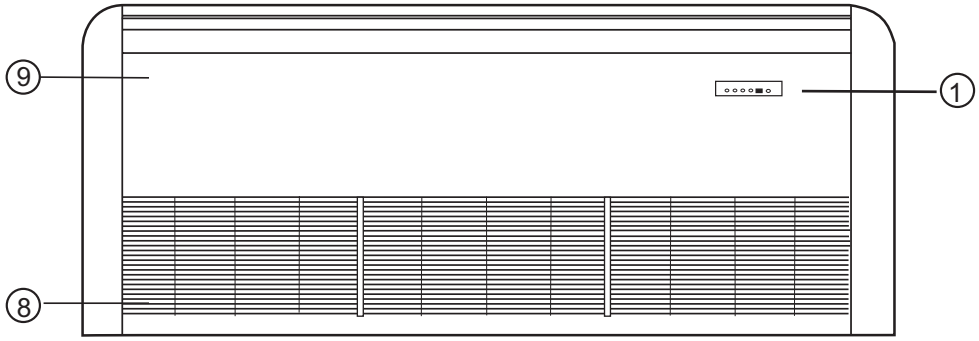
Air flow direction set	Range of swing
①	① to ③
②	① to ③
③	② to ④
④	③ to ⑤
⑤	① to ⑤ (all range)

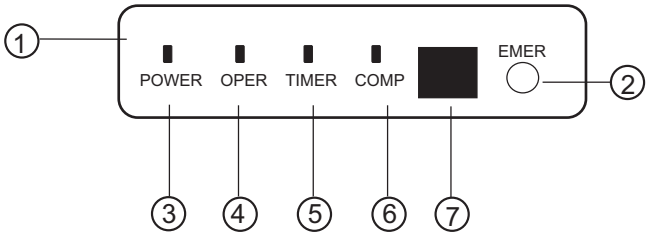
Note :

When being switched on firstly, the up-down flap will be at the position of max. angle. In cooling, the up-down louver is not good to stay at position 4, 5 for a long time, otherwise, the dew will occur.

Parts and Functions

Indoor unit



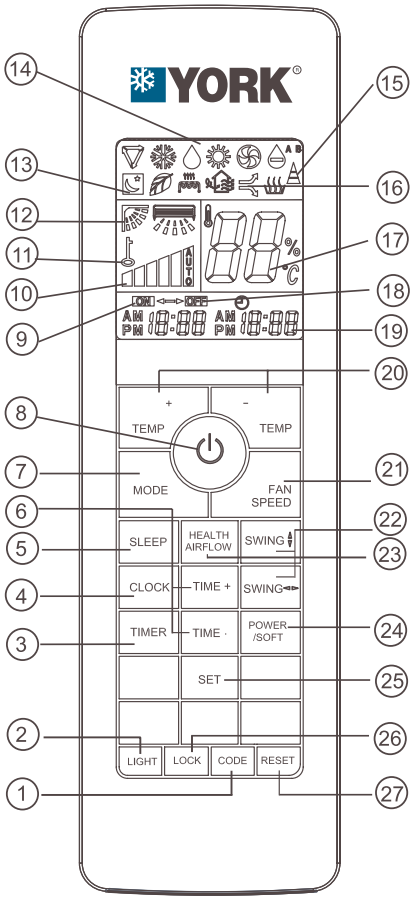


(1) Operating Control Panel
(2) Emergency Switch
(3) Power Indicator Lamp
(4) OPERATION Indicator Lamp
(5) TIMER Indicator Lamp
(6) Compressor Lamp
(7) Remote Receiver
(8) Inlet Grill (Filter inside)
(9) Front Panel

Note :
For the wired control type unit, the unit state should be checked by the wired controller, instead of the remote receiver. And if you set the TIMER function, the TIMER LED on the remote receiver will not be on.

Parts and Functions

Remote controller



1.CODE Button
Used to select CODE A or B which will be displayed on LCD.Please select A without special explanation.

2.LIGHT Button
Control the lightening and extinguishing of the indoor LED display board.

3.TIMER Button

4.CLOCK Button

5.SLEEP Button

6.TIME Button

7.MODE Button

8.ON/OFF Button

9.TIMER ON Display

10.FAN SPEED Display

11.LOCK Display

12.SWING Display

13.SLEEP Display

14.Operation MODE Display

Operation mode	AUTO	COOL	DRY	FAN	HEAT
Remote controller					

15.SIGNAL SENDING Display

16.POWER/SOFT Display

17.TEMP Display

18.TIMER OFF Display

19.CLOCK Display

20.TEMP Button

21.FAN SPEED Button

22.SWING Button

23.HEALTH AIRFLOW Button

24.POWER/SOFT Button

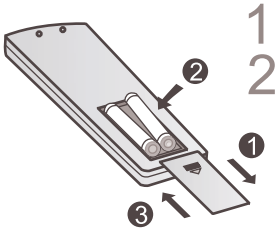
25.SET Button

26.LOCK Button
If pressed,the other buttons will be disabled.Press it once again, lock will be cancelled.

27.RESET Button
When the remote controller appears abnormal,use a sharp pointed article to press this button to reset the remote controller normal.

NOTE:
Cooling only unit do not have displays and functions related with heating. If the unit which you purchased has healthy function, follow it. If not, please ignore.

Loading of the battery



1 Remove the battery cover;

2 Load the batteries as illustrated.2 R-03 batteries, resetting key(cylinder);

3 Be sure that the loading is in line with the "+/-"£»

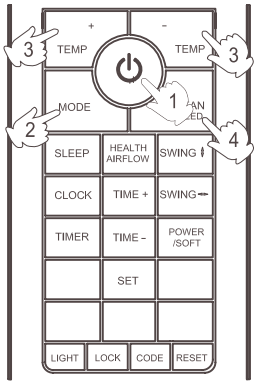
4 Load the battery, then put on the cover again.

Note:
The distance between the signal transmission head and the receiver hole should be within 7m without any obstacle as well.
When electronic-started type fluorescent lamp or change-over wireless telephone is installed in the type fluorescent lamp or room, the receiver is apt to be disturbed in receiving the signals,so the distance to the indoor unit should be shorter.
Full display or unclear display during operation indicates the batteries have been used up.
If the remote controller can't run normally during operation,please remove the batteries and reload several minutes later.

Hint:
Remove the batteries in case unit won't be in usage for a long period.If there are any display after taking-out, just need to press reset key.

Base Operation

Remote controller



1. Unit start
Press ON/OFF on the remote controller, unit starts

2. Select operation mode
Press MODE button. For each press, operation mode changes as follows:
Remote controller:

Operation

3. Temperature setting

Press TEMP+ / TEMP- button.

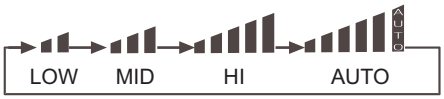
TEMP+ Every time the button is pressed, temp.setting increases 1 C; if kept depressed, it will increase rapidly.

TEMP- Every time the button is pressed, temp.setting decreases 1 C; if kept depressed, it will decrease rapidly.

4. Fan speed selection

Press FAN SPEED button. For each press, fan speed changes as follows:

Remote controller:



Air conditioner is running under displayed fan speed.

When FAN is set to AUTO, the air conditioner automatically adjusts the fan speed according to room temperature.

Operation Mode	Remote Controller	Display Board	Note
AUTO			Under the mode of auto operation, air conditioner will automatically select Cool or Heat operation according to room temperature. When FAN is set to AUTO, the air conditioner automatically adjusts the fan speed.
COOL			according to room temperature.
DRY			In DRY mode, when room temperature becomes lower than temp.setting + 2 C , unit will run intermittently at LOW speed regardless of FAN setting.
FAN			In FAN operation mode, the unit will not operate in COOL or HEAT mode but only in FAN mode, AUTO is not available in FAN mode. And temp.setting is disabled. In FAN mode,SLEEP operation is not available.
HEAT			

Timer ON/OFF ON-OFF Operation

Before going to bed, you can simply press the SLEEP button and unit will operate in SLEEP mode and bring you a sound sleep.

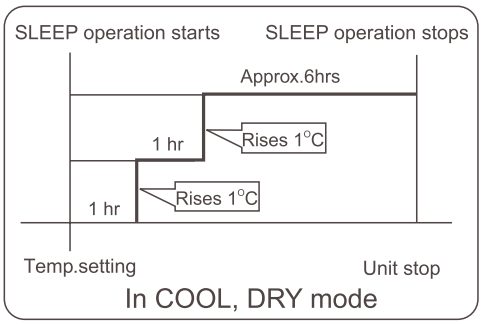
Use of SLEEP function

After the unit starts, set the operation status, then press SLEEP button before which the clock must be adjusted and time being set.

Operation Mode

1. In COOL, DRY mode

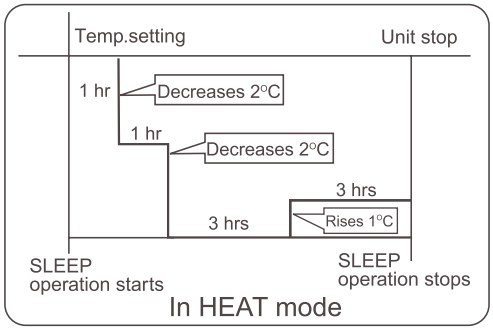
1 hours after SLEEP mode starts, temp. will become 1 C higher than temp. setting. After another 1 hours, temp. rises by 1 C futher. The unit will run for further 6 hours then stops. Temp. is higher than temp. setting so that room temperature won be too low for your sleep.



In COOL, DRY mode

2. In HEAT mode

1 hours after SLEEP mode starts, temp. will become 2 C lower than temp. setting. After another 1 hours, temp. decrease by 2 C futher. After more another 3 hours, temp. rises by 1 C futher. The unit will run for further 3 hours then stops. Temp. is lower than temp. setting so that room temperature won be too high for your sleep.



In HEAT mode

3. In AUTO mode.

The unit operaters in corresponding sleep mode adapted to the automatically selected operation mode.

4. In FAN mode.

It has no SLEEP function.

5. Set the wind speed change when sleeping

If the wind speed is high or middle before setting for the sleep, set for lowing the wind speed after sleeping.
If it is low wind, no change.

Note

When TIMER function is set, the sleeping function can't be set up. After the sleeping function is set up, if user resets TIMER function, the sleeping function will be cancelled; the machine will be in the state of timing-on.

Operation

Timer ON/OFF ON-OFF Operation

Set clock correctly before starting TIMER operation.

1.After unit starts, select your desired operation mode.

2.Press TIMER button to change TIMER mode. Every time the button is pressed, display changes as follows:

Remote controller:

Then select your desired TIMER mode (TIMER ON or TIMER OFF or TIMER ON-OFF). " **ON** " or " **OFF** " will flash.

3.Press TIME+/TIME- button to set time.
It can be adjusted within 24 hours .

4.After setting correct time, press SET button to confirm " **ON** " or " **OFF** on the remote controller stops flashing.

5.Cancel TIMER mode
Just press TIMER button several times until TIMER mode disappears.

Hints:

After replacing batteries or a power failure happens, time setting should be reset.
Remote controller possesses memory function. When use TIMER mode next time, just press SET button after mode selecting if time setting is the same as the previous one.
According to the Time setting sequence of TIMER ON or TIMER OFF, either Start-Stop or Stop-Start can be achieved.

Air Flow Direction Adjustment

1.Status display of air flow

COOL/DRY:

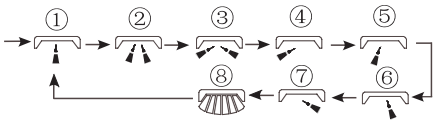
HEAT:

Initial state

2.Left and right air flow adjustment

(available only for convertible unit)

Press button SWING Enter left and right air flow adjustment to adjust the air flow angle.



Note:Postion ② ③are null for this model.

Healthy airflow Operation

1.Press ON/OFF to starting
Setting the comfort work conditions.

2.The setting of healthy airflow function
1). Press the button of healthy airflow, appears on the display. Horizontal airflow sending. Avoid the airflow blows direct to the body.

2). Press the button of healthy airflow again, appears on the display. Downward airflow sending. Avoid the airflow blows direct to the body.

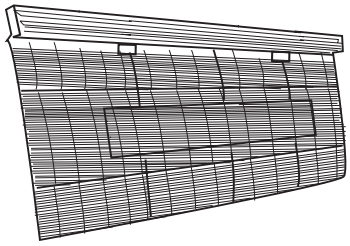
3. The cancel of the healthy airflow function
Press the button of healthy airflow again, the unit goes on working under the condition before the setting of healthy airflow function.

Notice:
Do not direct the flap by hand. Otherwise, the grille will run incorrectly. If the grille is not run correctly, stop for a minute and then start, adjusting by remote controller.

Note:
1.After setting the healthy airflow function, the position grill is fixed.
2.In heating, it is better to select the mode.
3.In cooling, it is better to select the mode.
4.In cooling and dry, using the air conditioner for a long time under the high air humidity, condensate water may occur at the grille.

Maintenance

Clean the air filter



1.Pull the filters upward to remove them from the Intake Grill.
2.Clean the air filter: Remove the dust from the filters by vacuum cleaner or washing them. After washing, allow the air filters to dry thoroughly in an area protected from sunlight.
3.Re-attach the air filters to the Intake Grill. Press the two buttons on the filters until you hear a sound of click.

Maintenace of indoor units

- When used for extended periods, the unit may accumulate dirt inside, which reduces its performance. We recommend that the unit is inspected regularly, in addition to your own cleaning and care. For more information, consult authorized service personnel.
- When cleaning the unit's body, do not use water hotter than 40°C, harsh abrasive cleansers, or volatile agents like benzene or thinner.
- Do not expose the unit body to liquid insecticides or hairsprays.
- When shutting down the unit for one month or more, first allow the Fan mode to operate continuously for about half a day to allow internal parts to dry thoroughly.

Operation tips

Instructions relating to heating are applicable only to "HEAT & COOL TYPE"

Heating Performance

- This air conditioner operates on the heat-pump principle, absorbing heat from outdoor air and transferring that heat indoors. As a result, the operating performance is reduced as outdoor air temperature drops. If you feel that insufficient heating perfomance is being produced, we recommend you use this air conditioner in conjunction with another kind of heating appliance.
- Heat-pump air conditioners heat your entire room by recirculating air throughout the room, with the result that some time may be required after first starting the air conditioner until the room is heated.

Microcomputer-controlled Automatic Defrosting

- When using the Heating mode under conditions of low outdoor air temperature high humidity, frost may form on the outdoor unit, resulting in reduced operating performance.
- In order to prevent this kind of reduced performance, this unit is equipped with a Microcomputer-controlled Automatic Defrosting function. If frost forms, the air conditioner will temporarily stop, and the defrosting circuit will operate briefly (for about 7 to 15 minutes).

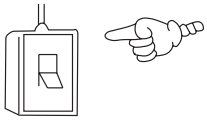
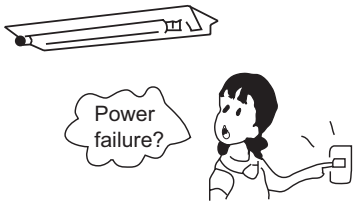
Troubleshooting

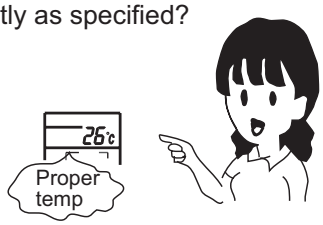
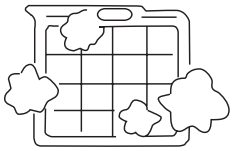
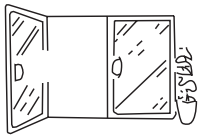
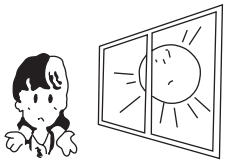
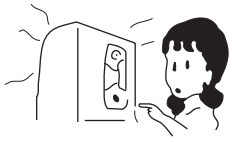
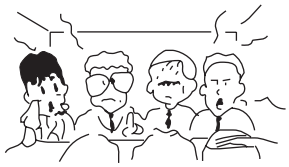
Followings are not problems

Sound of water flowing is not a problem.	During unit operation or at stop, a swishing or gurgling noise may be heard. This noise is generated by refrigerant flowing in the system.
Sound of cracking is heard.	During unit operation, a cracking noise may be heard. This noise is generated by the casing expanding or shrinking because of temperature changes.
Smell are generated.	This is because the system circulates smells from the interior air such as the smell of cigarettes or the painting on the furniture.
During operation, white fog or steam comes out from the indoor unit.	When unit is running at places like restaurant, etc. where dense edible oil fumes always exist, this will happen.
In cooling operation, unit switches to blowing operation.	To prevent frost from accumulating on indoor heat exchanger, unit will switch to blowing operation for a while then resume cooling operation.
Unit will not restart after stop. Won't start?	Though ON/OFF button is set to ON, the unit won't resume cooling, dry or heating operation in 3 min after it is stopped, this is because of 3-min-delay protection circuit. Please wait 3 minutes
No outlet air or fan speed can't be changed in dry mode.	Unit will reduce fan speed repeatedly and automatically if room temp. is too low in dry operation.
In heating operation, water or steam are blown out of outdoor unit.	This occurs when frost accumulated on the outdoor unit is removed. (during defrosting operation)
In heating operation, indoor fan won't stop even if unit is stopped.	After unit stop, indoor fan will go on running until indoor unit cools down.

Troubleshooting

Before ask for services, please first check your unit against the following.

<table>
<tr><th colspan="3">Air conditioner won't start.</th></tr>
<tr><td>Is power supply switch turned on?
 
Power supply switch is not set at ON.</td><td>Is city power supply normal?
  </td><td>Is leakage current breaker activated?

This is very dangerous, please disconnect power supply immediately and contact your dealer.</td></tr>
<tr><th colspan="3">Poor cooling or heating</th></tr>
<tr><td>Are operation control adjusted correctly as specified?
  </td><td>Is air filter too dirty?
  </td><td>Are there any obstacles in inlet or outlet grill?
 </td></tr>
<tr><td>Are horizontal louvers at up position (in heating mode)?</td><td colspan="2">Any doors or windows left open?
  </td></tr>
<tr><th colspan="3">Poor cooling</th></tr>
<tr><td>Is there any direct sunlight in the room?
  </td><td>If there are unexpected heat sources in the room?
  </td><td>Too many people in the room?
  </td></tr>
<tr><td colspan="3">Cold air blows out (in heating mode). Is air conditioner in standby condition in heating mode?</td></tr>
</table>

If your unit still can't work properly after above mentioned checks, or following problems occur, please stop it immediately and contact your dealer.

- Fuses or circuit breakers often blow out.
- Water comes out in cooling/dry operation.
- Operation is abnormal or sound is heard.

Troubleshooting

When failure happens,the fan of indoor unit stop running.The method of check failure code as follow.
For outdoor failure,the failure code is outdoor failure LED flash times + 20.
For example,the failure code of outdoor unit is 2. the wired controller of indoor unit will display 16(using hexadecimal method).

Ta: ambient temperature sensor
Tm: coil temperature sensor

Failure code(from receive board)		Failure code(from wired controller)	Failure code(from panel controller)	Trouble shooting	Possible reasons
Flash times of Timing LED(or indoor PCB LED4)	Flash times of Running LED(or indoor PCB LED3)				
0	1	01	E1	Temperature sensor Ta faulty	Sensor disconected,or broken,or at wrong position,or short circuit
0	2	02	E2	Temperature sensor Te faulty	Sensor disconected,or broken,or at wrong position,or short circuit
0	4	04	F8	EEPROM WRONG	Faulty indoor unit PCB
0	7	07	E9	Abnormal communication between indoor and outdoor units	Wrong connection,or the wires be disconected,or wrong address setting of indoor unit,or faulty power supply or faulty PCB
0	8	NO EERROR CODE DISPLAY	E8	Abnormal communication between indoor wired controller and indoor unit PCB	Abnormal communication between indoor wired controller and indoor unit PCB
0	12	0C	E0	Drainage system abnormal	Pump motor disconnected,or at wrong position,or the float switch broken down,or the float switch disconected,or at wrong position.
0	13	OD	EF	Zero cross sigal wrong	Zero cross sigal detected wrong
0	16	10	F3	Indoor mode abnormal	Different from outdoor unit mode
2	1	15	/	Outdoor unit abnormal	Refer to the outdoor unit trouble shooting list
2	2	16	/	Outdoor unit abnormal	
2	4	18	/	Outdoor unit abnormal	
2	5	19	/	Outdoor unit abnormal	
2	7	1B	/	Outdoor unit abnormal	
2	8	1C	/	Outdoor unit abnormal	
2	9	1D	/	Outdoor unit abnormal	
3	0	1E	/	Outdoor unit abnormal	
3	1	1F	/	Outdoor unit abnormal	
3	2	20	/	Outdoor unit abnormal	
3	3	21	/	Outdoor unit abnormal	
3	5	23	/	Outdoor unit abnormal	
3	6	24	/	Outdoor unit abnormal	
3	7	25	/	Outdoor unit abnormal	
3	8	26	/	Outdoor unit abnormal	
3	9	27	/	Outdoor unit abnormal	
4	3	2B	/	Outdoor unit abnormal	
4	4	2C	/	Outdoor unit abnormal	
4	7	2F	/	Outdoor unit abnormal	
4	8	30	/	Outdoor unit abnormal	
4	9	31	/	Outdoor unit abnormal	
5	8	3A	/	Outdoor unit abnormal	
5	9	3B	/	Outdoor unit abnormal	
6	3	3F	/	Outdoor unit abnormal	
6	4	40	/	Outdoor unit abnormal	

1. For the indoor failure,only running LED ON remote receiver will indicate.
2. For the outdoor failure,timer LED and running LED will indicate.timer LED of remote receiver stands for ten's place,and running LED stands for one's place.timer LED will flash firstly,2 seconds later,running LED will flash too. Afer that,4 seconds later,they will flash in turns again.Flash times equals to the failure code of outdoor plus.
20.For example,failure code of outdoor is 2,the indoor unit should display 22.As a result,timer LED flashes twice firstly,then running LED flashes twice.
3.To get much more details of outdoor unit failure,Please refer to the the outdoor unit trouble shooting list.

Installation Procedure

Please ask the dealer or specialist to install, never try by the users themselves. After the installation please be sure of the following conditions.

WARNING

- **Please call dealer to install the air-conditioner. Incorrect installation may cause water leaking, shock and fire hazard.**

CAUTION

- **Air-conditioner can't be installed in the environment with inflammable gases because the inflammable gases near air-conditioner may cause fire hazard.**
- **Installed electrical-leaking circuit breaker.**
  It easily cause electrical shock without circuit breaker.
- **Connect earthing wire.**
  Earthing wire should not be connected to the gas pipe, water pipe, lightning rod or phone line, incorrect earthing may cause shock.

Earthing

- **Use discharge pipe correctly to ensure efficient discharge.**
  Incorrect pipe use may cause water leaking.
- **Wiring**
  Air-conditioner should be equipped with special power supply wire.
- **Location**
  - Air-conditioner should be located in well-vented and easily accessible place.
  - Air-conditioner should not be located in the following places:
    (1) Places with machine oils or other oil vapours.
    (2) Seaside with high salt content in the air.
    (3) Near hot spring with high content of sulfide gases.
    (4) Area with frequent fluctuation of voltage e.g. factory, etc.
    (5) In vehicles or ships.
    (6) Kitchen with heavy oil vapour or humidity.
    (7) Near the machine emitting electric-magnetic waves.
    (8) Places with acid, alkali vapour.
  - Choose the following locations:
    (1) Capable of supporting air conditioner weight. Don't increase operating noise and vibration.
    (2) Hot vapour from outdoor unit outlet and operating noise don't disturb neighbour.
    (3) No obstacles around the outdoor unit outlet.
  - TV, radio, acoustic appliances etc. are at least 1 m far away from the indoor unit, outdoor unit, power supply wire, connecting wire, pipes, otherwise images may be disturbed or noises be created.
  - As required, take measures against heavy snow.

For authorized sevice personnel only

WARNING

(1) For the room air conditioner to operate satisfactorily, install it as outlined in this installation manual.
(2) Connect the indoor unit and outdoor unit with the room air conditioner piping and cords available from our standard parts. This installation manual describes for the correct connections so that the installation set available from our standard parts should be used.
(3) Installation work must be performed in accordance with national wiring standards by authorized personnel only.
(4) Never cut the power cord, lengthen or shorten the cord, or change the plug. Do not use an extension cord.
(5) Plug in the power cord plug firmly. If the receptacle is loose, repair it before using the room air conditioner.
(6) Do not turn on the power until all installation work is done.

CAUTION

(1) Be careful not to scratch the room air conditioner when handing it.
(2) After installation, explain correct operation to the customer, according to the operating manual.
(3) Let the customer keep this installation manual because it will be used when the room air conditioner is serviced or moved.

Installation Procedure

SELECTING THE MOUNTING POSITION

WARNING

- Install at a place that can withstand the weight of the indoor unit and install it positively so that the unit will not topple or fall.

CAUTION

- Do not install the unit where there is the danger of combustible gas leakage.
- Do not install near heat sources.
- If children under 10 years old may approach the unit, take preventive measures so that they cannot reach the unit.

Decide the mounting position with the customer as follows.

(1) Install the indoor unit level on a strong wall which is not subject to vibration.
(2) The inlet and outlet ports should not be obstructed, and the air should be able to blow all over the room.
(3) Do not install the unit where it will be exposed to direct sunlight
(4) Install the unit where connection to the outdoor unit is easy.
(5) Install the unit where the drain pipe can be easily installed.
(6) Take servicing, etc. into consideration and leave the spaces shown in "Maintenace space dimension" .
(7) Install the unit where the filter can be removed

ACCESSORIES FOR INSTALLATION

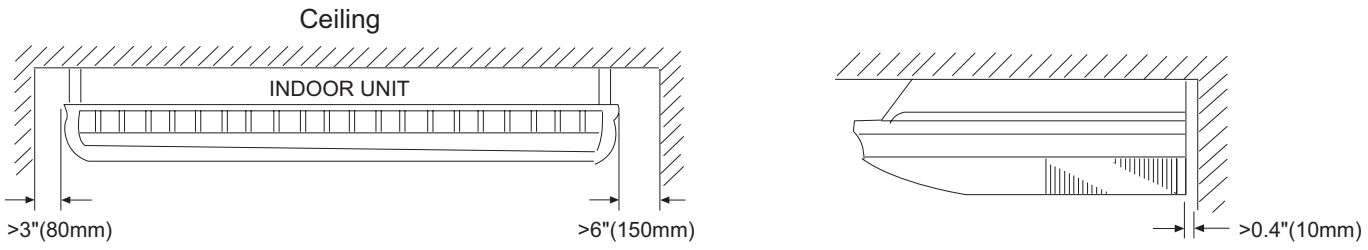
The following installation parts are optional parts. Use them as required.

Optional parts

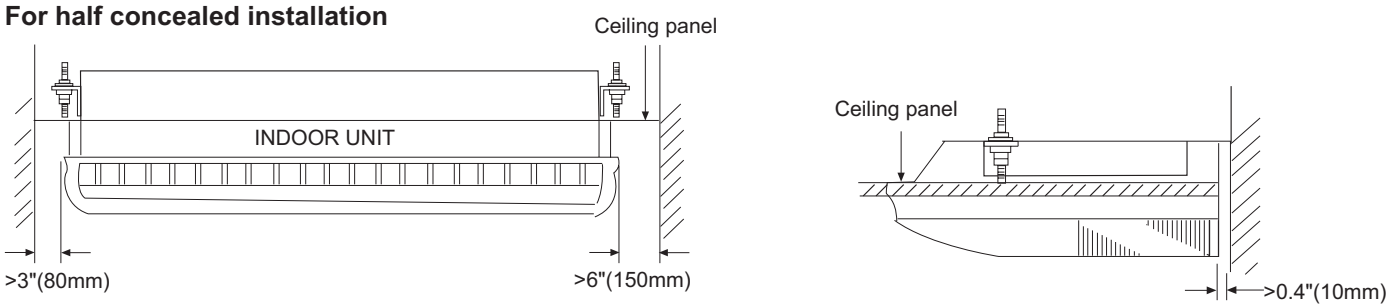
Adhesive tape
Saddle (L.S) with screws
Drain hose
Heat insulation material
Piping hole cover
Putty
Plastic clamp

MAINTENANCE SPACE DIMENSION

For ceiling installation



For half concealed installation



Installation Procedure

INSTALLING THE INDOOR UNIT

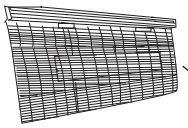
Connection pipe requirement

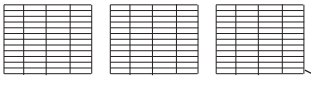
Model	Diameter		Maximum length	Maximum height (between indoor and outdoor)
	Liquid side	Gas side		
28K 36K	9.52 mm	15.88mm	30 m	20m
48K 60K	9.52 mm	19.05mm	50 m	30 m

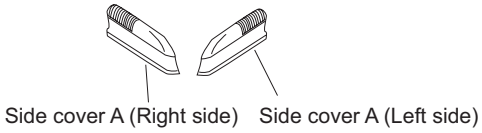
Install the room air conditioner as follows

1. Remove the intake grill and side cover

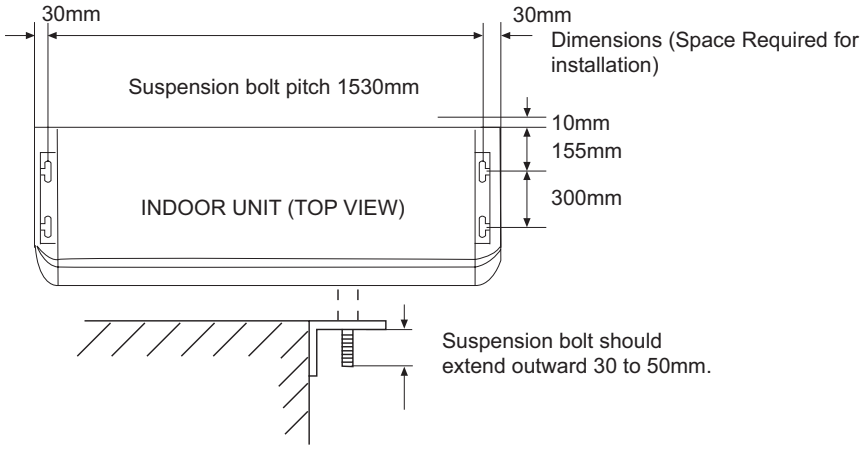
(1) Remove the Air filters
(2) Remove the intake grilles
(3) Remove the Side cover (Right and left side)
(4) This air conditioner can be set up to intake fresh air. The information about how to install for fresh-air intake, refer to "Fresh air intake".





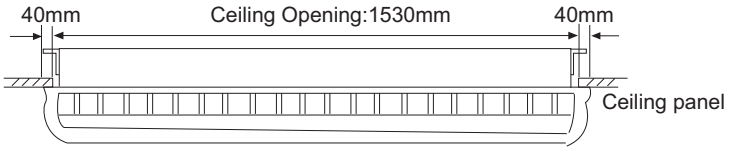


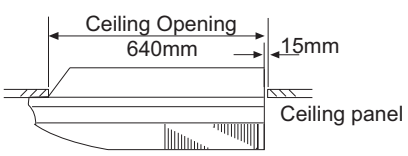
2. Location of ceiling supension bolts

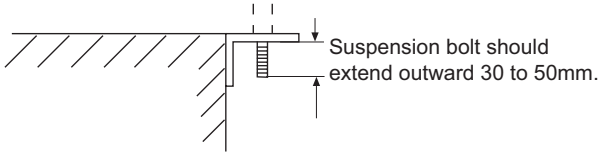


For half-concealed installation

Supension-bolt pitch should be as shown below







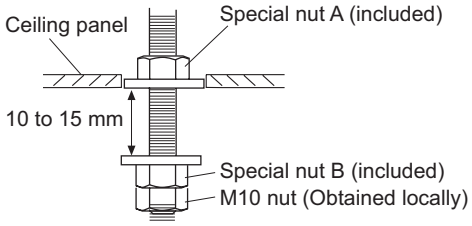
Installation Procedure

3. Drilling the holes and attaching the suspension bolts

(1) Drill Φ25mm holes at the suspension-bolt locations. The two special nuts are provided with the unit. The M10 nut must be obtained locally.

(2) Install the bolts, then temporarily attach Special nuts A and B and a normal M10 nut to each bolt.

Bolt strength: 980 to 1470 N (100 TO 150 kgf)

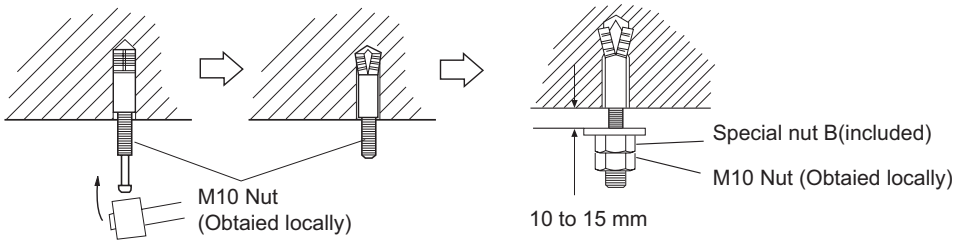


If using anchor bolts

(1) Drill holes for anchor bolts at the locations at which you will set the suspension bolts. Note that anchor bolts must be obtained locally.

(2) Install the anchor bolts, then temporarily attach special nut "B" (included) and a locally-procured M10 nut to each of the bolts.

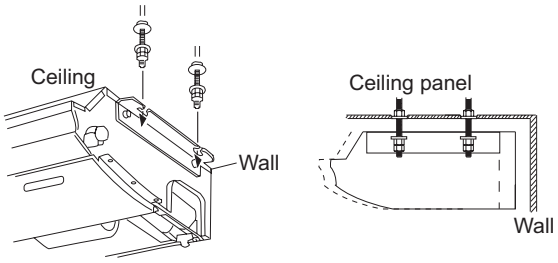
Anchor-bolt strength: 980 to 1470 N (100 TO 150 kgf)



4.Installing the indoor unit

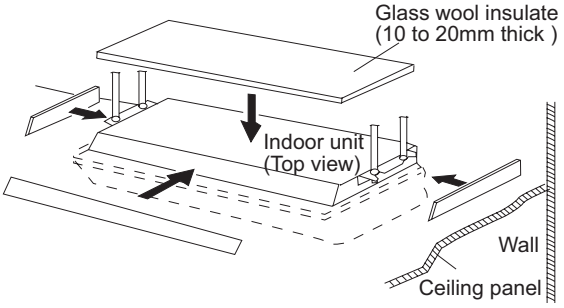
(1) Lift unit so that suspension bolts pass through suspension fittings at the sides (four places),and slide the unit back.

(2) Fasten the indoor unit into place by tightening-up the special "B" bolts and the M10 nuts. Make sure that unit is secure and will not shift back and forth.



For half-concealed installation

When installing the indoor unit in a semi-concealed orientation, make sure to reinforce the insulation of the unit on all sides. Drops of water may fall from the unit if it is not thoroughly insulated.

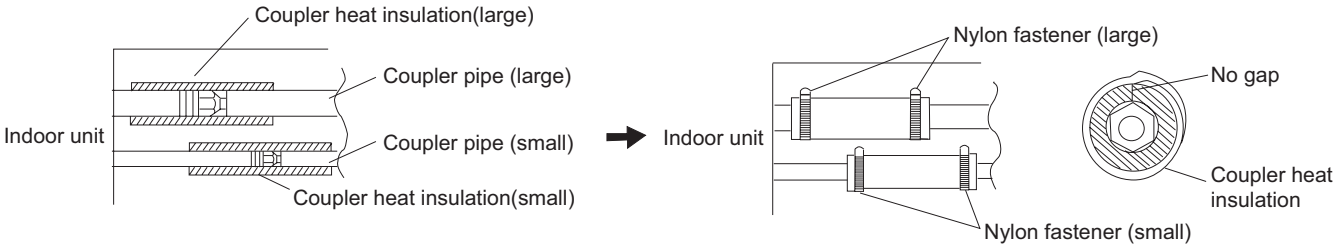


CAUTION

In order to check the drainage, be sure to use a level during installation of the indoor unit. If the installation site of the indoor unit is not level, water leakage may occur.

5.Installing the coupler heat insulation

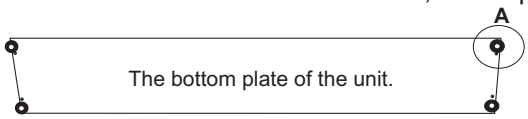
After checking for gas leaks, insulate by wrapping insulation around the two parts (large and small) of the indoor unit coupling, using the coupler heat insulation. After installling the coupler heat insulation, wrap both ends with vinyl tape so that there is no gap. Secure both ends of the heat insulation material using nylon fasteners.

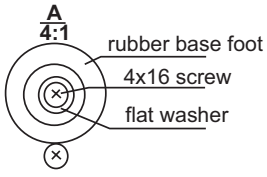


When using an auxiliary pipe, make sure that the fastener used is insulated in the same way.

Note:

When installing the unit on the floor, fix the four rubber base feet in the accessories on the bottom plate of the unit with four 4x16 screws and 4 flat washers, as the position in the figure.

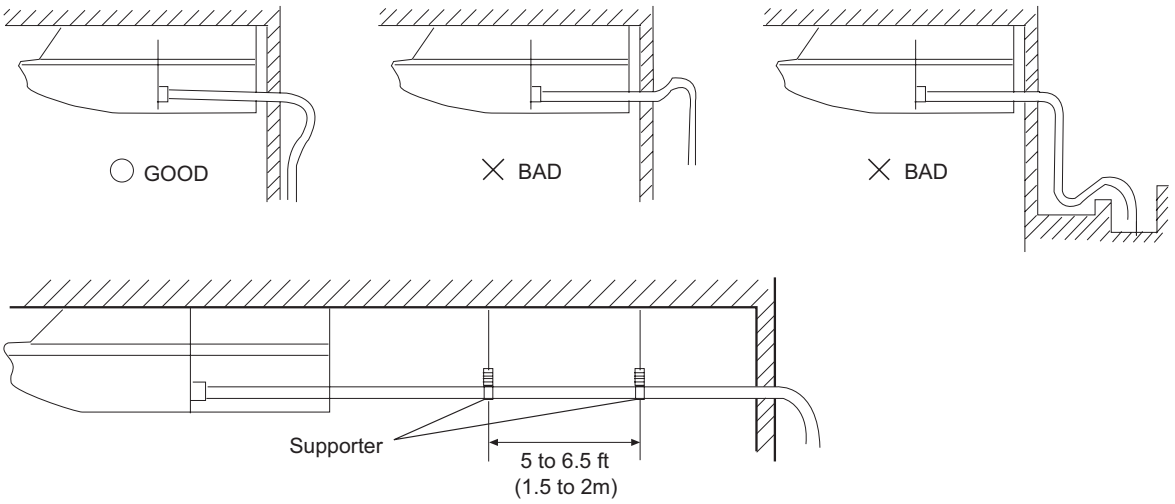




Installation Procedure

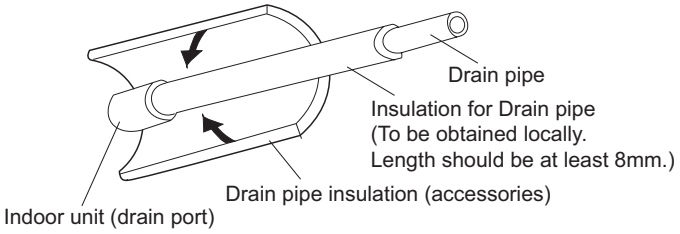
INSTALLING THE DRAIN HOSE

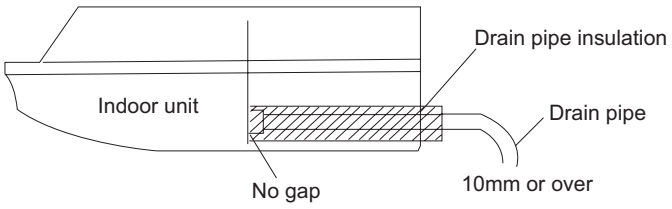
- Install the drain pipe with downward gradient (1/50 to 1/100) and so there are no rises or traps in the pipe.
- Use general hard polyvinyl chloride pipe (VP25) (outside diameter 38 mm)
- During installation of the drain pipe, be careful to avoid applying pressure to the drain point of the unit.
- When the pipe is long, install supporters.
- Do not perform air bleeding.
- Always heat insulate (8mm or over thick) the indoor side of the drain pipe.



(1) Install insulation for the drain pipe

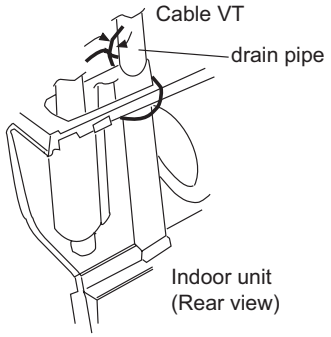
Cut the included insulation material to an appropriate size and adhere it to the pipe.


Drain pipe
Insulation for Drain pipe
(To be obtained locally.
Length should be at least 8mm.)
Drain pipe insulation (accessories)
Indoor unit (drain port)



(2) When drain pipe is put in the right rear position

Fasten the drain pipe with cable VT so that there is a proper slope for drain pipe to exit from the indoor unit.



Installation Procedure

ELECTRICAL WIRING

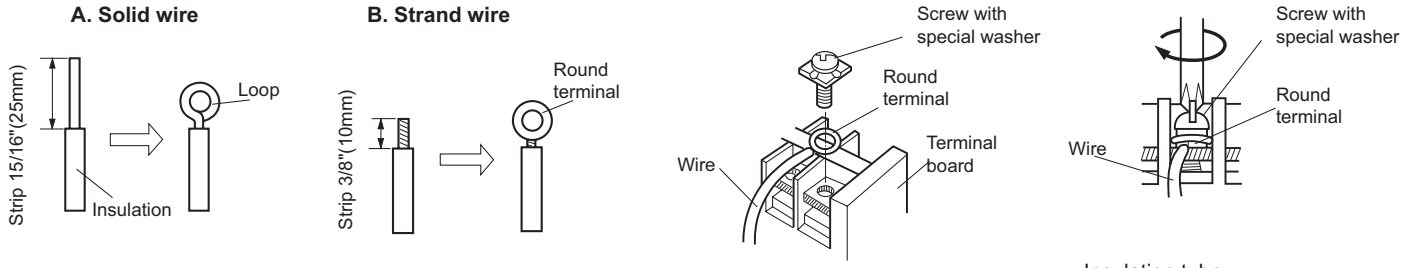
Connect wiring to the terminals

A.For solid core wiring (or F-cable)

(1) Cut the wire end with a wire cutter or wire-cutting pliers, then strip the insulation to about 15/16"(25mm) to expose the solid wire.
(2) Using a screwdriver, remove the terminal screw(s) on the terminal board.
(3) Using pliers, bend the solid wire to form a loop suitable for the terminal screw.
(4) Shape the loop wire properly, place it on the terminal board and tighthen securely with the terminal screw using a screwdriver.

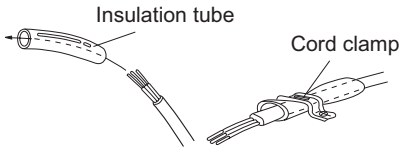
B.For strand wiring

(1) Cut the wire end with a wire cutter or wire-cutting pliers, then strip the insulation to about 3/8"(10mm) to expose the solid wire.
(2) Using a screwdriver, remove the terminal screw(s) on the terminal board.
(3) Using a round terminal fastener or pliers, securely clamp a round terminal to each stripped wire end.
(4) Position the round terminal wire, and replace and tighten the terminal screw using a screwdriver.



Fix connection cord and power cable at the cord clamp

After passing the connection cord and power cable through the insulation tube, fasten it with the cord clamp.
Use VW-1, 0.5 to 1.0 mm thick, PVC tube as the insulation tube.



Electrical requirement

Select wire sizes and circuit protection from table below. (This table shows 20m length wires with less than 2% voltage drop).

Item / Model	Phase	Circuit breaker		Power source wire size (minimum) (mm^2)	Earth leakage breaker	
		Switch breaker (A)	Overcurrent protector rated capacity (A)		Switch breaker(A)	Leak current(mA)
28K 36K	1	40	30	6.0	40	30
48K 60K	1	30	20	4.0	10	30

CAUTION

- Match the terminal block numbers and connection cord colors with those of the outdoor unit. Erroneous wiring may cause burning the electric parts.
- Connect the connection cords firmly to the terminal block. Imperfect installation may cause a fire.
- Always fasten the outside covering of the connection cord with the cord clamp. If the insulator is chafed, electric leakage may occur.
- Always connect the ground wire.
- The Unit has default temperature compensation setting, please cancel it when floor standing installation.

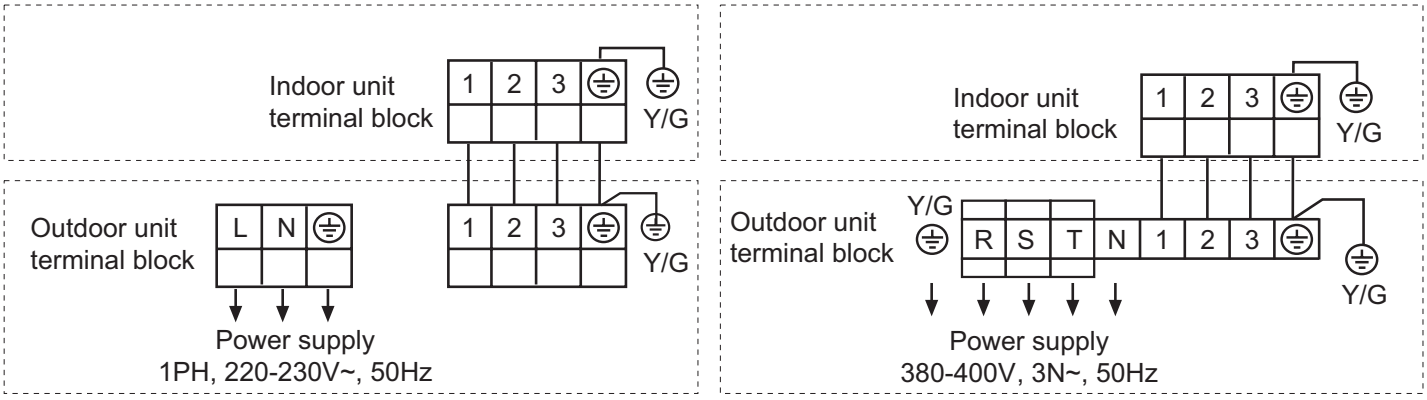
Connect indoor unit and outdoor unit

(1) Remove the cord clamp.
(2) Process the end of the connection cords to the dimensions shown in wiring diagram.
(3) Connect the end of the connection cord fully into the terminal block.
(4) Fasten the connection cord with a cord clamp.
(5) Fasten the end of the connection cord with the screw.

Installation Procedure

Wiring diagram

28K 36K 48K 60K



WARNING

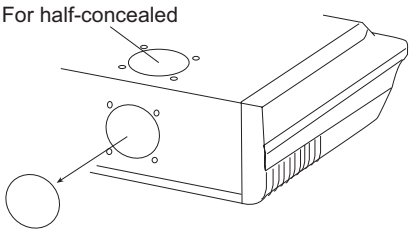
- The power cable and connecting cable are self-provided.
- Always use a special branch circuit and install a special receptacle to supply power to the room air conditioner.
- Use a circuit breaker and receptacle matched to the capacity of the room air conditioner.
- The circuit breaker is installed in the permanent wiring. Always use a circuit that can trip all the poles of the wiring and has an isolation distance of at least 3mm between the contacts of each pole.
- Perform wiring work in accordance with standards so that the room air conditioner can be operated safely and positively.
- Install a leakage circuit breaker in accordance with the related laws and regulations and electric company standards.

CAUTION

- The power source capacity must be the sum of the room air conditioner current and the current of other electrical appliances. When the current contracted capacity is insufficient, change the contracted capacity.
- When the voltage is low and the air conditioner is difficult to start, contact the power company the voltage raised.

FRESH AIR INTAKE

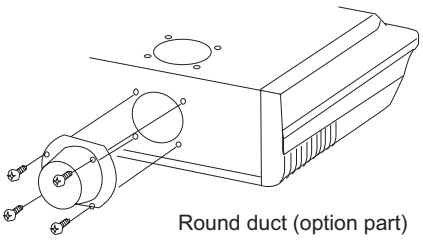
1. Open up the knockout hole for the fresh air intake. If using half-concealed installation, open up the top knockout hole instead.



CAUTION

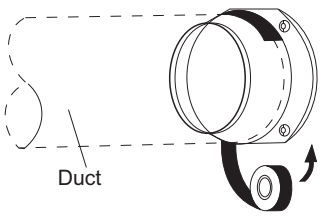
- When removing the cabinet (iron plate), be careful not to damage the indoor unit internal parts and surrounding area (outer case).
- When processing the cabinet (iron plate), be careful not to injury yourself with burrs,etc.

2. Fasten the round flange (optional) to the fresh air intake. If using half-concealed installation, attach to the top.



3. Connect the duct to the round flange.

4. Seal with a band and vinyl tape,etc. so that air does not leak from the connection.



Test Run

Check items

1. Indoor unit

- Is operation of each button on the remote control unit normal?
- Does each lamp light normally?
- Do not air flow direction louvers operate normally?
- Is the drain normal?

2. Outdoor unit

- Is there any abnormal noise and vibration during operation?
- Will noise, wind, or drain water from the unit disturb the neighbors?
- Is there any gas leakage?

Customer guidance

Explain the following to the customer in accordance with the operation manual:

(1) Starting and stopping method, operation switching, temperature adjustment, timer, air flow switching, and other remote control unit operations.
(2) Air filter removal and cleaning, and how to use air louvers.
(3) Give the operation and installation manuals to the customer.

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